Sl.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in
6	KSRB 4-6.1: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications. Specifcation No. KBS 4.6.2 (P.No.15, I.No.4.28 of PW, P&IWTD SR 2016-17)								
		Sqm							
	New Culvert		4	5.50	--	0.250	5.50		
							5.50	244.86	1346.73
7	KSRB 4-6.4: Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surfaces such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specifications. Specification No.KBS 4.6.2 (P.No.15, I.No.4.31 of PW,P&IWTD SR 2016-17)								
	Side Walls	Sqm							
	New Culvert		8	5.50	--	0.80	35.20		
							35.20	310.58	10932.42
8	Providing and laying cement concrete using 20mm and downsize granite coarse aggregates and fine aggregates of ready mixed concrete (RMC) for RCC works laid in 15cms thick layers and well compacted vibrating, curing, finishing with necessary cement mortar, with all lead and lifts etc., complete (exclusive of cpost of steel and fabricaton charges) Ready Mixed Cement Concrete M 20 for Raft foundation, Column, Footing, main and secondary beams. (P.No.18, I.No.4.48 of PW, P&IWTD SR 2016-17)								
	New Drain	Cum							
	Bottom Slab								
	New Culvert		2	5.50	1.30	0 25	3.58		
	Side Walls								
	New Culvert		4	5.50	0.25	0.80	4.40		
							8.00	6231.74	49853.92
9	KSRB - 4.9.2: Providing TMT steel reinforcement Fe500 for R.C.C work including straightening, cutting, bending, hooking, palcing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining memebrs wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3. (P.No.17, I.No.4.46.2 of PW, P&IWTD SR 2016-17)								
	Consider 80Kgs/cum for culvert	Tonne		8.00	0.080	--	0.64		
							0.64	64243.42	41115.79
10	KSRRB 5-14: Providing and Constructing precast concrete solid blocks with compressive strength not less than 3.5 Newton/sqm with cement mortor 1:4 masonry (quoin, jamb, closer blocks) with solid concrete blocks of size 40X15X20 cms confirming to I.S:2185/1965 in superstructure including cost of materials, labor charges, scaffolding, curing complete as per specifications (P.No.25, I.No.5.26.2 of PW, P&IWTD SR 2016-17)								
	Flagging Course / Raising of BS Drain	Sqm							
	New Drain								
	LHS								
	Ch 0 -240		2.00	240.00		0.20	96.00		
	RHS								
	Ch 0 - 365		2.00	365.00		0.20	146.00		
							242.00	961.42	232663.64
11	KSRB 4-1.6: Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878 cum and fine aggregates @ 0.459 cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2. (P.No.12, I.No.4.6 of PW,P&IWTD S.R 2016-17)								
	Coping	Cum							
	New Drain								
	LHS								
	Ch 0 -240		2.00	240.00	0.20	0.075	7.20		
	RHS								
	Ch 0 - 365		2.00	365.00	0 20	0.075	10.95		
	Culverts		4.00	5.50	0.25	0.100	0.55		
							18.70	5767.46	107851.50

Sl.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in
12	Providing and fixing **RCC Precast cover slab of 100mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Cover Slab	Sqm							
	LHS								
	Ch 0 -240		1	240	0.90	--	216.00		
	RHS								
	Ch 0 - 365		1	300.00	0.90	--	270.00		
							486.00	2100.00	**1020600.00**
13	Providing and fixing **RCC Precast cover slab of 250mm thick** for drain in cement concrete M20 using graded granite jelly 20mm and down size with steel reinforcement, including form work, lift charges, curing and concrete finished surfaces on both sides etc, complete and as per drawing and the directions of Engineer in-charge. (Data Rate)								
	Culvert Slab	Sqm							
	New Culverts		2	5.50	1.30	--	14.30		
							14.30	5111.00	**73087.30**
14	KSRRB 500-2: Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatement including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH Spec, Chapter 5 (P.No.161, I.No.21.2 of PW,P&IWTD SR 2016-17)								
	Dwarakanagar (bagalur Mn Rd to Netaji	Sqm							
	Ch 0 -240		1	240.00	5.00	--	1200.00		
	Cross Road		1	270.00	5.50	--	1485.00		
							2685.00	3.18	**8538.30**
15	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
	Dwarakanagar (bagalur Mn Rd to Netaji Rd	Sqm							
	For Laying BC								
	Ch 0 -240		1.00	240.00	5.00	--	1200.00		
	Cross Road		1.00	270.00	5.50	--	1485.00		
							2685.00	11.66	**31307.10**
16	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Dwarakanagar (bagalur Mn Rd to Netaji Rd	Cum							
	Ch 0 -240		1.00	240.00	5.00	0.04	48.00		
	Cross Road		1.00	270.00	5.50	0.04	59.40		
							107.40	7083.98	**760819.45**

Sl.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in
17	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	510.00	0.10	--	102.00		
							102.00	542.72	55357.44
							Total Construction Cost		2892586.29
18							Cost towards Preparation of DPR LS		28925.86
19							Cost towards PMC / Third Party Inspection LS		28925.86
								Sub Total	2950438.02
20							Miscellaneous and rounding off		49561.98
								Total	3000000.00

Certificate.

1 The workspot was inspected and work is found to be necessary.
2 The area comes within the Bruhat Bangalore Mahanagara Palike limits.
3 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
4 The provisions made in the estimate are necessary and essential.

Assistant Engineer

Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Executive Engineer

Executive Engineer
Project Division
Yelahanka Zone
Bangalore

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Improvements to Roads and Drains at Kattigenahalli Surrounding Area in Ward No 05 Byatarayanapura Sub division

Est Cost: =40.0Lakh

Sl. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	PG Road		2	350.00	0.50	0.45	157.50		
	7th Cross		2	50.00	0.50	0.45	22.50		
	6th Cross		2	52.00	0.50	0.45	23.40		
	Conneting Rd From 6th to 7th cross		2	45.00	0.50	0.45	20.25		
							223.65	186.92	**41804.66**
2	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.304 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	PG Road		1	350.00	7.00	0.23	563.50		
	7th Cross		1	55.00	7.00	0.23	88.55		
	6th Cross		1	55.00	7.00	0.23	88.55		
	Conneting Rd From 6th to 7th cross		1	50.00	6.50	0.23	74.75		
	Bad Reaches		5	2.00	2.00	0.23	4.60		
			8	1.50	1.50	0.23	4.14		
			4	1.00	1.00	0.23	0.92		
							825.01	155.16	**128008.55**
3	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub- base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
	Road Portion	Cum							
	PG Road		1	350.00	7.00	0.23	563.50		
	7th Cross		1	55.00	7.00	0.23	88.55		
	6th Cross		1	55.00	7.00	0.23	88.55		
	Conneting Rd From 6th to 7th cross		1	50.00	6.50	0.23	74.75		
	Bad Reaches		5	2.00	2.00	0.23	4.60		
			8	1.50	1.50	0.23	4.14		
			4	1.00	1.00	0.23	0.92		
							740.60	1768.08	**1309440.05**
4	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kg/sqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
	Road Portion	Sqm							
	PG Road		1	350.00	7.00	--	2450.00		
	7th Cross		1	55.00	7.00	--	385.00		
	6th Cross		1	55.00	7.00	--	385.00		
	Conneting Rd From 6th to 7th cross		1	50.00	6.50	--	325.00		
	Bad Reaches		5	2.00	2.00	--	20.00		
			8	1.50	1.50	--	18.00		
			4	1.00	1.00	--	4.00		
							3587.00	27.56	**98857.72**

5	KSRRB M500-7 : Providing and applying tack coat using 80/100 grade bitumen (VG10) on prepared black topped surfaces at 2.5 Kg per 10 sqm, heating bitumen in boiler fitted with spray machineries complete as per specifications.MORTH / Chapter 5 (P.No.161 I.No.21.7 of PW,P&IWTD SR of 2016-17)								
	Road Portion	Sqm							
	For laying DBM								
	PG Road		1	350.00	7.00	--	2450.00		
	For Laying BC								
	PG Road		1	350.00	7.00	--	2450.00		
	7th Cross		1	55.00	7.00	--	385.00		
	6th Cross		1	55.00	7.00	--	385.00		
	Conneting Rd From 6th to 7th cross		1	50.00	6.50	--	325.00		
	Cross Roads		1	90.00	6.60	--	594.00		
							5995.00	11.66	69901.70
6	KSRRB M500-17. Providing and laying dense graded bituminous macadam using crushed aggregates of specified grading, premixed with VG30 grade bituminous binder and, transporting the hot mix to work site, laying to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH table 500-10 complete in all respects complete as per specifications.. MORTH Specification No. 507 - using 40/60 TPH capacity H.M.P. with Mechanical paver Gr-II (50 mm to 75 mm) with 4.5 % VG-30 Bitumen (P.No.165 of I.No.21.17.6 in PW,P&IWTD S.R 2016-17)								
	PG Road		1	350.00	7.00	0.05	122.50		
							122.50	6284.74	769880.65
7	KSRRB M500-19. Providing and laying bituminous concrete 30-40 mm compacted thickness with VG30 Bitumen grade using 40-60 HMP using crushed aggregates of grading II, premixed with bituminous binder at 5.4% of mix and filler, transporting the hot mix to work site, laying with a mechanical paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H specification clause No. 500.9 complete in all respects as per specifications. MORTH Specification No. 509 (P.No.165 of I.No.21.22.6 in PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	PG Road		1	350.00	7.00	0.04	98.00		
	7th Cross		1	55.00	7.00	0.04	15.40		
	6th Cross		1	55.00	7.00	0.04	15.40		
	Conneting Rd From 6th to 7th cross		1	50.00	6.50	0.04	13.00		
	Cross Roads		1	90.00	6.60	0.04	23.76		
							165.56	7083.98	1172823.73
8	KSRRB M800-13. Providing and laying of hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads at 250 gms per sqm area, thickness of 2.5mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes complete as per specifications. MORTH Specification No. 803.(P.No.185, I.No.24.15 of PW,P&IWTD SR 2016-17)								
	Edge line	Sqm	2	600.00	0.10	--	120.00		
							120.00	542.72	65126.40
							Total Construction Cost		3655843.460
							Cost towards Preparation of DPR LS		36559.00
9							Cost towards PMC / Third Party inspection LS		36559.00
10								Sub Total	3728961.46
							Miscellaneous,TP and rounding off		271038.54
11								Total	4000000.00

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Assistant Engineer

Assistant Executive Engineer

Executive Engineer

Asst. Executive Engineer
Project Division
Yelahanka Zone
Bangalore

Executive Engineer
Project Division
Yelahanka Zone
Bangalore

BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Improvements to Roads and Drains at Niranthara Layout in Ward No 05 Byatarayanapura Sub division

Est Cost: =40.0Lakh

S. No.	Description of work	Unit	No.	Length	Breadth	Depth	Quantity	Rate in Rs.	Amount in Rs.
				m	m	m			
1	KSRRB 200-8. Clearing and grubbing road land including uprooting rank vegetation, grass, brush, shrubs, saplings and trees of girth upto 300mm, by manual means, in area of light jungle, removal of stumps, disposal of unserviceable materials, stacking of serviceable materials labour charges complete as per specifications. MORTH / Chapter 2 (P.No.136, I.No.18.11 of PW, P&IWTD SR 2016-17)								
	Vegetation Clearance	Cum							
	Niranthara Layout								
	Main Road 1		2	280.00	0.60		336.00		
	Cross Road 1		2	20.00	0.60		24.00		
	Cross Road 2		2	20.00	0.60		24.00		
	Cross Road 3		2	116.00	0.60		139.20		
	Cross Road 5		2	125.00	0.60		150.00		
	Cross Road 6		2	55.00	0.60		66.00		
	Cross Road 7		2	86.00	0.60		103.20		
	Cross Road 9		2	84.00	0.60		100.80		
	Main Road 2		2	65.00	0.60		78.00		
	Cross Road 10		2	104.00	0.60		124.80		
	Cross Road 11		2	156.00	0.60		187.20		
	Cross Road 12		2	196.00	0.60		235.20		
							1568.40	6.36	**9975.02**
	KSRRB M300-1. Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neatly dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3 (P.No.142, I.No.19.1 of PW, P&IWTD SR 2016-17)								
	Desilt	Cum							
	Niranthara Layout								
	Main Road 1		2	280.00	0.50	0.45	126.00		
	Cross Road 1		2	20.00	0.50	0.45	9.00		
	Cross Road 2		2	20.00	0.50	0.45	9.00		
	Cross Road 3		2	116.00	0.50	0.45	52.20		
	Cross Road 5		2	125.00	0.50	0.45	56.25		
	Cross Road 6		2	55.00	0.50	0.45	24.75		
	Cross Road 7		2	86.00	0.50	0.45	38.70		
	Cross Road 9		2	84.00	0.50	0.45	37.80		
	Main Road 2		2	65.00	0.50	0.45	29.25		
	Cross Road 10		2	104.00	0.50	0.45	46.80		
	Cross Road 11		2	156.00	0.50	0.45	70.20		
	Cross Road 12		2	196.00	0.50	0.45	88.20		
							588.15	186.92	**109937.00**

3	KSRRB M300-14. Excavation for roadwork in soil with hydraulic excavator of 0.90 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to embankment location and complete as per specifications. MORTH Specification No.301 (P.No.143, I.No.19.14 of PW,P&IWTD S.R 2016-17)								
	Road Portion	Cum							
	Bad Reaches								
			10	2.00	2.50	0.23	11.50		
			15	1.80	1.50	0.23	9.32		
			7	0.50	6.50	0.23	5.23		
			20	1.00	1.20	0.23	5.52		
							31.57	155.16	**4898.01**
4	KSRRB M 400-17, Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechaniqal mix plant carriage ' of mixed Material by tipper to site, laying in uniform layers with paver in sub-base/ base course on well prepared surface and compacting with vibratory roller to achieve the desired density.complete as per specifications. MORTH Specification No. 406 (P.No.158, I.No.20.18 of PW,P&IWTD SR 2016-17)								
	Bad Reaches	Cum							
			10	2.00	2.50	0.23	11.50		
			15	1.80	1.50	0.23	9.32		
			7	0.50	6.50	0.23	5.23		
			20	1.00	1.20	0.23	5.52		
							31.57	1768.08	**55813.87**
	KSRRB M 500-6, Providing and applying primer coat with SS bitumen emulsion on prepared surface of granular Base such as WBM WMM including clearing of road surface and spraying primer at the rate of 0.60 kglsqm using mechanical means complete as per specifications. As per MORTH specification clause No. 502 (P.No.161, I.No.21.6 of PW,P&IWTD SR 2016-17)								
	Bad Reaches	Cum							
			10	2.00	2.50	--	50.00		
			15	1.80	1.50	--	40.50		
			7	0.50	6.50	--	22.75		
			20	1.00	1.20	--	24.00		
							137.25	27.56	**3782.61**
6	KSRRB 500-2: Cleaning the existing black topped surface with brooms, soft brushes and finally dusting with old gunny bags and / or compressed air to receive bituminous treatement including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH Spec, Chapter 5 (P.No.161, I.No.21.2 of PW,P&IWTD SR 2016-17)								
	Niranthara Layout	Sqm							
	Main Road 1		1	280.00	5.00	--	1400.00		
	Cross Road 1		1	20.00	4.50	--	90.00		
	Cross Road 2		1	20.00	4.50	--	90.00		
	Cross Road 3		1	116.00	4.80	--	556.80		
	Cross Road 5		1	125.00	5.00	--	625.00		
	Cross Road 6		1	55.00	4.80	--	264.00		
	Cross Road 7		1	86.00	4.90	--	421.40		
	Cross Road 9		1	84.00	4.80	--	403.20		
	Main Road 2		1	65.00	5.50	--	357.50		
	Cross Road 10		1	104.00	4.40	--	457.60		
	Cross Road 11		1	156.00	4.50	--	702.00		
	Cross Road 12		1	196.00	4.80	--	940.80		
	Cross Roads near by area		3	220.00	5.30	--	3498.00		
			1	135.00	5.50	--	742.50		
							10548.80		
	Deduct prime coat						-137.25		
							10411.55	3.18	**33108.73**